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ABSTRACT

Gifted students have been enrolling in high school vocational agriculture courses in increasing numbers in recent years, according to a mailed survey of 100 randomly selected schools in 10 randomly selected states, plus Pennsylvania. During the 1974-80 time period, enrollment of identified gifted students in the surveyed vocational agriculture classes had increased from 44 to 195, although these gifted students make up only 10 percent of the total gifted students in those schools. Intelligence quotient and teacher identification were the most often used methods for identifying gifted students in vocational agriculture classes. Administrators and teachers in the majority of schools reported that they used individualized instruction, acceleration, or both to teach gifted students. Few of the schools reported special extracurricular activities, field trips, or community involvement for their gifted vocational agriculture students. However, it was observed that community involvement is already prevalent in many vocational agriculture programs. Most schools had career awareness activities for all students, but less than 25 percent reported special programs to make gifted students aware of career opportunities in agriculture. Students who had graduated during 1974-79 were found to be mostly enrolled in higher education or engaged in farming occupations. Only 26 former students were reached; although most of them found the vocational agriculture program unchallenging, all would enroll in it again. It was recommended that teachers play a more active role in programs for the gifted, and that curriculum materials to serve their needs be developed. (KC)

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Department of Agricultural and Extension Education

STATUS OF GIFTED STUDENTS IN VOCATIONAL AGRICULTURE CLASSES IN THE UNITED STATES

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INTRODUCTION

The forgotten student on the educational scene is the gifted and talented student interested in vocational agriculture. In recent years, it has been reported that many gifted students have enrolled in vocational agriculture classes (Diehl, 1976; Lee, 1976; McMillion, 1976). These are the students who have the potential to excel in the various valuable lines of human potentialities. Also, this is a group that has had a high drop-out rate for schools because of unchallenging activities and education (Changing Times, 1980). More than one-third of the states have recognized the fact that gifted students need special activities and education and are mandating special education for gifted and talented students.

But who are the gifted students? According to the U. S. Office of Education:

> Gifted and talented children are those who by virtue of outstanding abilities are capable of high performance. These children require differentiated educational programs and/or service beyond those normally provided by the regular school program in order to realize their (potential) contribution to self and society.
>
> Children capable of high performance include those who have demonstrated any of the following abilities or aptitudes, singly or in combination: (1) General intellectual ability; (2) Specific academic aptitude; (3) Creative and productive thinking; (4) Leadership ability; (5) Visual and performing art aptitude; (6) Psycho-motor ability. (Marland, 1972)

Special attention must be given to the gifted students, their problems, and their present status in order to maintain their interest and pursuit of vocational agriculture. Until 1979-80, no reported effort was made to assess the status of gifted and talented students in vocational agriculture. In 1979-80, a study was conducted at the national level to assess the status of gifted students who have enrolled in vocational agriculture.

OBJECTIVES OF THE STUDY

1. To describe the 1979-80 enrollment status of gifted students in vocational agriculture classes in the United States.

2. To identify the methods used by schools for identification of gifted students.

3. To describe the availability of curricular and co-curricular activities for gifted students in schools offering vocational agriculture.

4. To describe the availability of career awareness education to gifted students in schools offering vocational agriculture.

5. To identify the present status and employment histories of gifted students who graduated from high school vocational agriculture classes from 1974 to 1979.

METHODS AND PROCEDURES

The population for this study consisted of all vocational agriculture teachers and their school administrators in the continental United States. Using stratified random sampling procedures, ten states[1] were selected for the sample. From each randomly selected state, ten schools offering vocational agriculture were selected by using a random number table and a national agriculture teacher directory. The 100 teachers and 100 administrators from these 100 randomly selected schools were used to represent the United States. The gifted students, who had enrolled in vocational agriculture and who graduated between 1974 and 1979, were also surveyed to collect data regarding their educational and employment histories.

Data were collected by means of mail survey. Vocational agriculture teachers reported the information about their classes while the administrators reported about the schools and the other teachers in the school systems. Data were compiled from the surveys returned from 73 schools. Follow-up letters were mailed to non-respondents after two weeks and again after a month. Of the non-respondents, five percent of the teachers and administrators surveyed by telephone reported that either they did not have gifted students in vocational agriculture or they had not identified the gifted students. All participants were informed that they were free not to answer specific items in the questionnaires and that their responses would be held strictly confidential. Descriptive, parametric, and nonparametric statistical procedures were used to analyze the data. In the chi-square test, tables with expected frequencies cells less than five were combined to make cells with expected frequencies of five or more.

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[1] The study included ten randomly selected states, plus Pennsylvania which was surveyed in its entirety.

FINDINGS

Enrollment Status

Enrollment data of the student population in the surveyed schools are given in Table 1. Almost all schools in the United States where gifted student programs were not mandated reported that they had some kind of special program for the bright students. Compared to the comprehensive high schools, very few vocational technical schools had gifted students enrolled in vocational agriculture.

Table 1. Current Enrollment of Student Population in Surveyed Schools (n=73) in Vocational Agriculture, and in Gifted Programs.

	Total	Means
A. Student population in schools	52,803	723
B. Enrollment in vocational agriculture programs	6,229	85
C. Total gifted in schools	1,938	27
D. Gifted in vocational agriculture	195	3
E. Unidentified gifted[a]	122	2

[a]Number of vocational agriculture students who can quality as gifted according to the Department of Education's definition but not presently enrolled in gifted programs.

During the 1974-80 time period, enrollment of identified gifted students in the surveyed vocational classes had increased considerably from 44 to 195 students. Even after this considerable increase, gifted students in vocational agriculture still represent only 10.0 percent of the total gifted student population in those schools (Table 2).

Table 2. Percentage of Student Population in Gifted Programs in Schools Offering Vocational Agriculture.

	Percent
A. Total gifted in school	3.7
B. Percentage of total gifted enrolled in vo. ag.	10.0
C. Percentage of vo. ag. population identified as gifted	3.1

Based on the survey data, in the 1979-80 school year there were an estimated 16,346 identified and 10,227 unidentified gifted students in the continental United States who were in schools offering vocational agriculture (according to the U. S. Department of Education 715,272 students were enrolled in vocational agriculture at the secondary level during

1977-78. No significant changes were expected in the enrollment for the school year 1979-80.) These gifted students possessed the special talents mentioned in the 1971 Department of Education's definition of giftedness. Enrollment data concerning unidentified gifted students should be interpreted with caution, since teachers have been found to be poor identifiers of gifted students (Havighurst et al., 1955; Gear, 1976).

Identification Methods and Qualification Criteria Used by Schools

The methods used by school districts to identify gifted students, according to teachers and administrators, are given in Table 3. Answers given by teachers and administrators were compared using the chi-square test. IQ tests and/or nomination by teachers were the most widely used methods in the survyed schools for the identification of gifted students, even though neither method has been found to be desirable (Havighurst et al, 1955; Gear, 1976; Alvino and Wieler, 1976). However, parents, who were proven to be good identifiers of the gifted (Ciha, 1974), were involved in the identification procedure by very few schools in this study.

Table 3. Methods Used to Identify Gifted Students Reported by Teachers (n-44) and Administrators (n=57) (in percentage).

Method	Teachers	Administrators
A. IQ test only	9.4	14.3
B. Parental identification	0.0	0.0
C. Teacher identification	21.9	20.0
D. IQ and teacher identification	53.1	34.3
E. All of the above	9.3	31.4
F. Other than above methods	6.3	0.0

Although 84 percent of vocational agriculture teachers reported that their schools involved teachers in the identification procedure, only 10 percent of the teachers had ever taken an active part in the identification process. Also, 89 percent of the teachers and 80 percent of the administrators reported that the school administration did not provide teachers with a list of gifted students in agriculture classes at the beginning of the school year. There are three possibilities why teachers of agriculture have not been taking an active part in identification: (1) they have not had any unidentified gifted students in their classes; (2) they have not had information about gifted students; or (3) they have not been interested in gifted student activities.

An IQ higher than 130, creativity and talent, and leadership were the main qualification criteria used for entrance into the gifted programs in the schools studied. There was no definite trend found for the qualification criteria since different schools had different criteria for qualification as gifted students.

More than half of the teachers and administrators thought that there should be better identification procedures for gifted students (Table 4), because present identification methods are inefficient and fail to identify many gifted students. Almost all administrators reported that they have unidentified gifted students in their schools. According to the responding agriculture teachers, as many as two percent of the vocational agriculture student population, which was not identified as gifted, could qualify as gifted in selected areas of vocational agriculture. The major areas reported by teachers in which agriculture students could qualify as gifted were leadership, shop, and creativity, areas where there is a paucity of reliable and valid identification instruments.

Table 4. Teachers' (n=52) and Administrators' (n=59) Opinions Regarding the Need for Better Identification Procedures (in percentage).

Need for Better Procedures	Teachers	Administrators
A. Yes	65.6	51.4
B. No	12.5	31.4
C. Uncertain	21.9	17.2

Curricular and Co-curricular Activities

Teachers of vocational agriculture were asked to name the curricular activities they used to teach gifted students in their vocational agriculture classes. Information about the activities used by other teachers in the schools was provided by administrators. More than 50 percent of the teachers and administrators reported that their schools used individualized instruction, acceleration, or both activities to teach gifted students (Table 5).

Table 5. Curricular Activities Used to Teach Gifted Students in Vocational Agriculture Classes and Other Classes by Teachers (n=36) and Administrators (n=53).

Curricular Activities	Teachers	Administrators
A. Individualized instruction	15.4	16.7
B. Acceleration	19.2	13.3
C. Both of the above	15.4	23.3
D. Teaching entirely different things	3.9	0.0
E. Grade skipping	0.0	0.0
F. Other activities	7.7	10.0
G. All of the above	38.5	36.7

Less than half of the respondents reported that their schools have extracurricular activities such as community and/or parent involvement, and field trips for gifted students. Literature suggests (Ginsburg and Harrison, 1977; Grimm, 1980; Changing Times, 1980; Voice, 1980) that community and parental involvement and field trips could play a major role in the education of gifted students. Fewer agriculture teachers (24%) reported the use of community and/or parental involvement activities for the enrichment of their gifted students than the other teachers (44%) in school systems. Also, fewer agriculture teachers planned field trips than other teachers for the gifted. The reason for fewer special field trips and community involvement may be due to the fact that community involvement is already an integral part of vocational agriculture.

Two-thirds of the teachers and administrators reported that the instruction of gifted students in their classes and schools was directed toward students' college preparation (Table 6). Also, a large percentage of the teachers (85%) and administrators (82%) indicated that there is a need for more information on how to teach gifted students in vocational agriculture (Table 7).

Table 6. Direction of Instruction for the Gifted Students in Vocational Agriculture Classes and in Schools, Reported by Teachers (n=56) and Administrators (n=59) (in percentage).

Instruction	Teachers	Administrators
A. For college	71.0	70.6
B. Not for college	12.9	11.8
C. Uncertain	16.1	17.6

Table 7. Vocational Agriculture Teachers' (n=54) and Administrators' (n=56) Opinions Regarding the Need for More Information on How to Teach Gifted Students in Vocational Agriculture (in percentage).

Need for More Information on How to Teach Gifted	Teachers	Administrators
A. Yes	85.3	82.1
B. No	11.8	10.3
C. Uncertain	2.9	7.6

Career Awareness

Fifty-nine percent of vocational agriculture teachers reported that their department has some kind of career awareness programs for all students before they enter vocational agriculture. However, of this group only 23 percent were involved in career awareness programs for prospective gifted students (Table 8). The need for more information on how to attract gifted students to vocational agriculture was expressed by most of the teachers (Table 9).

Table 8. Percentage of Departments (n=51) Having Career Awareness Programs to Attract Gifted Students to Vocational Agriculture.

Career Awareness Programs to Attract Gifted	Departments
A. Yes	23.5
B. No	73.5
C. Uncertain	3.0

Table 9. Vocational Agriculture Teachers' (n=63) Opinions Regarding the Need for More Information on How to Attract Gifted Students to Vocational Agriculture (in percentage).

More Information Needed to Attract Gifted to Vo.Ag	Teachers
A. Yes	91.2
B. No	5.9
C. Uncertain	2.9

All of the teachers and a very high percentage of the administrators (82%) in the survey agreed that vocational agriculture could be very useful in the enrichment of gifted students (Table 10). Most of the teachers (99%) and the administrators (81%) in the survey also believed that there was a great deal of opportunity for gifted students in vocational agriculture. However, teachers and administrators expressed a need for flexible and challenging programs.

Table 10. Vocational Agriculture Teachers' (n=59) and Administrators' (n=56) Opinions About the Usefulness of Vocational Agriculture in Enrichment of Gifted Students (in percentage).

Vo.Ag for Enrichment of the Gifted	Teachers	Administrators
A. Very useful	100.0	82.1[a]
B. Not useful	0.0	0.0
C. Uncertain	0.0	17.9

[a]Significantly different responses between the United States teachers and administrators, Probability 0.01, chi-square = 6.75.

Fifteen vocational agriculture teachers reported that in the last five years 55 gifted students were enrolled in the vocational agriculture program and then dropped the program. The two main reasons given by teachers for gifted students dropping out of vocational agriculture were difficulties in scheduling (wanted to attend for less time than other students) and the feeling that vocational agriculture was not challenging.

Present Status and Employment Histories of Gifted Graduates

The teachers were asked to report the addresses and present occupations of their gifted graduates. Occupational information was provided for 81 graduates while addresses were provided for 54 graduates. Information regarding the occupations in 1980 for gifted vocational agriculture students who graduated during 1974 to 1979 is given in Table 11.

Table 11. Occupations in 1980 for Gifted Vocational Agriculture Students who Graduated During 1974 to 1979, Reported by Teachers.

Occupation	Number	Percent
A. Student	42[a]	52
B. Farming	21	26
C. Mechanics and factory worker	7	9
D. Salesman	5	6
E. Armed Forces	5	6
F. Waitress	1	1
Total	81	100

[a]Fourteen graduates were working toward degrees in engineering and medical fields, others in agricultural related area.

Questionnaires were sent to the students for whom addresses were obtained. A total of 26 questionnaires were returned after two reminders. Data concerning gifted students must be interpreted cautiously because of the low number of students (26) able to be reached by mail due to insufficient teacher records and changes of address.

Seventy-three percent of the graduates responded that they were satisfied with their present occupation (Table 12). All 27 percent of the graduates who reported dissatisfaction or uncertainty about their present occupation had not received any higher education after graduation. The majority (60%) of the students who were dissatisfied or uncertain about their present occupation also felt that their preparation in vocational agriculture was inadequate. Those who were satisfied with their occupation and who had received higher education also reported having received special attention and instruction from their agriculture teachers.

Table 12. Feelings of Gifted Graduates about their Present Occupation.

Feeling About Present Occupation	Number	Percent
A. Satisfied	19	71.3
B. Dissatisfied	4	15.4
C. Uncertain	3	11.5
Total	26	100.0

FFA activities and the fact that one could pursue his/her own interests in agriculture were the main reasons given by the graduates as the strongest points of vocational agriculture programs. Twenty-three percent of the graduates reported that their education in vocational agriculture was too general and not challenging. However, all the gifted graduates responded that if they could start over again, they would still enroll in vocational agriculture.

CONCLUSIONS

The trend of gifted students' enrollment in vocational agriculture in recent years is on the increase. Their enrollment in the last five years appears to have increased considerably in vocational agriculture. According to educators, vocational agriculture can play a valuable role in the enrichment of all gifted students interested in agriculture. To keep this trend on the increase, vocational agriculture teachers and their programs need to adapt to the changing needs of gifted students.

Vocational agriculture teachers should take an active part in all facets of gifted students' activities, such as identification, instruction, and counseling. The teachers should be trained to utilize the untapped community and social resources which are easily accessible to vocational agriculture. More information should be provided to the teachers on how to attract gifted students to vocational agriculture. According to the gifted graduates, the success of the program depends upon the teacher. The teachers should be made aware of this fact, in order that they may be better able to provide special instruction and attention to their gifted students.

According to most of the respondents, vocational agriculture can better serve the gifted students by providing flexible and challenging programs. Such programs could help slow down the drop-out rate of gifted students to prepare themselves with the courses needed for higher education.

RECOMMENDATIONS

1. Similar studies should be conducted for each state in the United States.

2. Longitudinal studies should be conducted to obtain job histories of the gifted graduates of vocational programs.

3. Information should be collected, tested and disseminated to teachers on how to attract and teach gifted students in vocational agriculture.

4. Curriculum materials should be developed for gifted students in vocational agriculture.

5. Preservice and inservice classes should be conducted for teachers on how to teach the gifted in vocational agriculture.

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